

Laparoscopic Cholecystectomy in Patients with Bilharzial Portal Hypertension

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ABSTRACT

Objective: The purpose of this study was to evaluate the results of laparoscopic cholecystectomy in patients with bilharzial portal hypertension.

Methods: Patients who had gallstones and bilharzia had ultrasonographic assessment of peri-portal fibrosis, endoscopy, hemagglutination and rectal snip. Operating time, blood loss, hospital stay, time of return to work and operative mortality were recorded. Follow-up was two weeks, six weeks and six months after discharge.

Results: Twenty-five out of 450 patients, who had laparoscopic cholecystectomy, suffered from bilharzial portal hypertension. Ten patients had grade 1 varices, 10 had grade 2 varices, and 5 had grade 3 esophageal varices. All patients had varying degrees of peri-portal fibrosis as shown by ultrasound. Rectal snip showed schistosoma mansoni in 5 patients, and a hemagglutination test was positive in all. Two patients had conversion to open cholecystectomy. Mean operating time was 1 hour and 15 minutes. Average blood loss was 50 cc. Mean hospital stay for 23 patients was 48 hours. Average time of return to work was 2 weeks in 23 patients and 6 weeks in the 2 patients who had conversion. Twenty-two patients benefited from the operation. There was no mortality in this series.

Conclusions: Laparoscopic cholecystectomy in patients with bilharzial portal hypertension is feasible and has low morbidity.

Key Words: Laparoscopic Cholecystectomy, Bilharzia, Portal Hypertension.

INTRODUCTION

The literature is deficient in papers addressing the issue of laparoscopic cholecystectomy in patients who have gallbladder disease and bilharzial portal hypertension. In endemic areas of bilharziasis, there are some patients who suffer from other diseases, such as gallstones, and the need for laparoscopic operations arises. Therefore, it is important to establish the safety of this procedure. Bilharziasis or schistosomiasis is endemic in Africa, South America and the Caribbean Islands. It is caused by schistosoma mansoni that causes periportal fibrosis that results in portal hypertension. Despite extensive periportal fibrosis, however, liver functions are normal in patients with this condition.

PATIENTS AND METHODS

This study was conducted in Al Ain Hospital in the United Arab Emirates and Sudan clinic in Khartoum, Sudan. Data was collected prospectively from all patients who had laparoscopic cholecystectomy during the period of the study (1993-1998). Moreover, patients who had a history of schistosomiasis had stools examined for schistosomal ova. Serum hemagglutination, liver function tests, ultrasound assessment of periportal fibrosis, and endoscopy for presence and grading of esophageal varices was carried out. In addition, the following data was recorded: blood loss during laparoscopy, operating time, conversion, hospital stay, time of return to work, and mortality. Follow-up was done after two weeks, six weeks and six months from discharge.

RESULTS

During the period of the study, 1993-1998, 450 patients had laparoscopic cholecystectomy for gallstones, and 25 patients suffered from bilharzial portal hypertension. The study was conducted in Al Ain Hospital and Sudan clinic in Khartoum. There were 18 males and 7 females, with a mean age of 40 years (range 25-55). Stool examination was positive in 15 patients, and rectal snip showed Schistosoma Mansoni ova in 5 patients. The hemagglutination test was positive, in dilution of 1/64, in all patients. Liver function tests were normal in all

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Table 1.

Ultrasound grading of periportal fibrosis.

Grade 1	6
Grade 2	7
Grade 3	5
Grade 4	7
N = 25	

Table 2.

Endoscopic grading of esophageal varices.

Grade 1	10
Grade 2	10
Grade 3	5
N = 25	

patients. Ultrasonography showed evidence of periportal fibrosis in all. **Table 1** shows the different grades of periportal fibrosis. **Table 2** shows grades of esophageal varices as diagnosed by endoscopy. The average blood loss during laparoscopy was 50 cc (range 20-80 cc). Mean operating time was 75 minutes (range 30-120). In two patients (8%), laparoscopy was abandoned and converted to open surgery. Mean hospital stay was 2 days in 23 patients and 14 days for the patients who had conversion. Mean time of return to work was 14 days for 23 patients and 42 days for the 2 patients who had conversion. Follow-up after two weeks from discharge showed mild acitis in three patients. The 6 months' follow-up was available on 15 patients and showed that the acitis disappeared after medical treatment. The rest of the patients had no complaints, except for three more patients who continued to complain of mild abdominal discomfort. There was no mortality.

DISCUSSION

It was reported that mortality for open cholecystectomy in patients with liver cirrhosis ranges from 10% to 80%.¹ Moreover, many surgeons in tropical countries who had performed open cholecystectomy for patients with bilharzial portal hypertension have observed increased morbidity and mortality on these groups of patients. Bilharzial portal hypertension is similar in many aspects to liver cirrhosis. An important difference is that liver functions are normal in patients with bilharzial portal hypertension. The safety of laparoscopic cholecystectomy was not investigated in patients with bilharzial portal hypertension. However, there are many reports that establish the safety of laparoscopic cholecystectomy in patients with liver cirrhosis.² In our study, 25 patients out of 450 patients who had laparoscopic cholecystectomy for gallbladder disease suffered from bilharzial portal

hypertension. The evidence of bilharziasis or schistosomiasis was positive serology in all the patients; stools were positive in 15 patients, and rectal snip was positive in 5 patients. The evidence of portal hypertension was the presence of esophageal varices.

Laparoscopic cholecystectomy for this group of patients was performed successfully on 23 patients. The average blood loss was 50 mL. The liver was retracted by 5-mm forceps. However, in the two patients who had conversion of the procedure, the liver was firm, stiff and could not be retracted. The average operating time was 1 hour and 15 minutes; this is compatible with other reports.³⁻⁵ Slow, meticulous dissection using diathermy was highly required on this group of patients. There was a tendency of oozing and bleeding from the liver bed. This oozing was due to the high portal venous pressure in periportal fibrosis. The reason for failure in the two patients was due to difficulty in exposure as a result of difficult retraction. Those two patients had advanced periportal fibrosis. As has been described previously, ultrasound grading of periportal fibrosis gives good information about the extent and degree of the process.⁶ Average hospital stay was 48 hours for 23 patients. This is compatible with laparoscopic cholecystectomy on patients who do not suffer from schistosomiasis.⁷⁻¹⁰ The time of return to work was 2 weeks for 23 patients; this compares well with other reports. Most of our patients had benefited from the operation, and the severe attacks of biliary colic were no longer experienced. There was mild acitis in three patients; however, Sleeman et al had a high incidence of acitis in their patients with liver cirrhosis.² Patients with bilharzial portal hypertension have good liver functions, unlike patients with liver cirrhosis. In our patients, ascites disappeared after medical treatment by the physician. We had no mortality in this study.

CONCLUSION

Laparoscopic cholecystectomy can be performed safely in patients with bilharzial portal hypertension. However, meticulous dissection using electro-coagulation is advisable when operating on those patients as it minimizes bleeding from the gallbladder bed.

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